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The population of Tripoli, according to the latest official data,<sup>1</sup> amounts to 711,242. Among this are 16,670 Jews. The most southern point at which the latter are found is Orfella. They live an extremely miserable life and in places suffer even partial slavery. They do not emigrate because they know not where to go.

A. H.

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## ZOOLOGY

**Dean's Chimæroid Fishes**<sup>2</sup> is one of the most strikingly illustrated works yet issued by the Carnegie Institution. Any adequate summary of its contents is impossible here; all that can be attempted is an enumeration of its contents. For several years Dr. Dean has labored indefatigably in obtaining embryos of this group of rare Selachians. The work is based on the eggs of the Pacific *Chimæra collei*, the eggs of which were obtained from the gravid females and then incubated in floating boxes, but unfortunately these often broke adrift and about 150 eggs have been lost in this way.

After an introductory chapter on methods and the like Dr. Dean first describes the appearance, habits, etc., of the fish and then proceeds to a study of the development. The egg-capsule is beautifully figured and described in detail, this part of the work being made more valuable by figures of the egg-capsules of other chimæroids, both recent and fossil. The egg is fertilized before oviposition and Dr. Dean was fortunate enough to get specimens showing various phases of the process of fusion of the male and female pronuclei. Polyspemy is apparently the usual condition. The segmentation is in general of the usual Selachian discoidal type but is accompanied by a fragmentation of the yolk. A single early stage of gastrulation is described in detail, the striking feature being that the blastopore is not, as in other elasmobranchs, at the edge of the blastoderm but inside its rim, a condition which throws much light on gastrulation in other forms, conclusions which are supported by two other stages.

<sup>1</sup> Méhier de Mathuisieulx, *L'Anthropologie*, XVII, 1906, Nos. 1-2, pp. 237-239.

<sup>2</sup> Dean, Bashford: *Chimæroid Fishes and their development*. Carnegie Institution, Publication 32, Washington, 1906, pp. 194, 11 plates.

Of the stages after the closure of the medullary folds the accounts are far less detailed than we could wish and there are many gaps in the organogeny which remain to be filled but which cannot at present be described on account of lack of material. Especially interesting are the figures given of a reconstruction of the skull of a well advanced embryo in which the pterygoquadrate bar is not completely fused with the cranium. Other features of organogeny given are concerned with (1) the integument and dentition in which embryos and larvæ of other chimæroids are considered and the conclusion is reached that the dental plates represent fused denticles. (2) The skeleton which is largely based on the work of Schauinsland. (3) The viscera. There is, even in early stages, no continuous mesentery. A few words are devoted to gut, gills and nephridial structures.

The third section, one of the most valuable of the work, is a discussion of the fossil chimæroids. The existence of Silurian members of the group is more than doubted, but, as shown by the Ptyctodonts, they probably occurred in the Devonian. The definite knowledge of the group began with the lower Jurassic, since which time numerous undoubted chimæroids have occurred, the group attaining its maximum development in the cretaceous. These fossils and the structure and embryology of the existing species are invoked to show that the chimæroids are not a primitive group but are a modified and specialized development from forms more like the normal Selachians. An extensive bibliography closes the volume.

J. S. K.

**Development of the Mammalian Lung.** Flint (Am. Journ. Anat. 6, 1906) describes in a long paper the development of the lung and associated structures in the pig. The anlage is asymmetrical, and its origin, below the level of the gill pouches is an argument against any phylogenetic connection between lungs and gill pouches. The development of the bronchi is followed in detail and many variations noted, the complete series including sixteen on one side and seventeen on the other, a condition rarely occurring. Eby's conclusion that the pulmonary artery differentiates two lung regions of different morphological significance is not supported. The pulmonary veins arise as an outgrowth from the undivided portion of the sinus venosus, the veins to the right and left lungs developing by specialization in the capillary plexus. In the earlier history the division of the respiratory ducts is monopodial in character as in the lower pulmonate vertebrates and it is only in the other stages that dichotomous division, characteristic